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Kevin W Guynn  
Sonnenschein Nath & Rosenthal  
8000 Sears Tower  
233 South Wacker Drive  
Chicago, IL 60606-6404

EXAMINER

TAMAI, KARL I

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/856,068

Applicant(s)

BOBZIN, JORG

Examiner

Tamai IE Karl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 122-164 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 123,128-131,133,134,137,148,156,159 and 161 is/are allowed.
- 6) ☒ Claim(s) 122-131,133,134,137,140,144,148,153,156,157,159 and 161 is/are rejected.
- 7) ☐ Claim(s) 157 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Applicant elected, without traverse, Group I in the response filed 11/4/02, corresponding to FIGS. 1, 2, 3, 5, 9 and 15-19. The Applicant has not indicated which claims correspond to Group I, so the examiner will assume pending claims 122-127, 140, 144, 153, 154, and 157, corresponds to Group I in order to advance prosecution on the merits.

### ***Drawings***

2. The objection to the drawings under 37 CFR 1.83(a) is withdrawn.

### ***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title "electric machines" is not clearly indicative of the invention, but broadly applies to every electrical device and appliance. The examiner suggests "Dynamoelectric Machine with a Bent Air Core Coil Between Two Magnetic Bodies".

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

5. Claims 122 and 127 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 122 is vague and indefinite because

"very coil side" is unclear. Claim 127 recites the limitation "the inner boundary surfaces". There is insufficient antecedent basis for this limitation in the claim. The examiner notes that claims 157-159 do not have antecedent basis for "the first drum shaped body", even though these claims are not part of the elected group I.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 122, 125, 126, and 144 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Oba et al. (Oba)(JP 55-083,449). Oba (figure 7) teaches a motor with an air gap between the flux plates 13 and 14 (second members) mounted on a shaft, with permanent magnets 20a, 20b (first member) mounted between the first members and having a coil bend around the permanent magnet members. The magnetic field extends between the permanent magnet and the flux plates over the entire length of the air gap. Oba teaches a coils which is positioned in parallel air gaps which transition into each other where the coils wrap around the first members and are supported in the folded region of the coil. The second members 13, 14 follow the contour of the conductor at the bend region because the conductor is parallel to the second member. Oba teaches the first and second bodies connected at the outer edge via the shaft 12. Oba teaches the first body 11 having two surfaces (parallel and

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perpendicular to the axis of rotation) which define the air gap between the first body 11 and the second body 13. Oba teaches all the coils being stationary with respect to the moving field magnets. Oba teaches the second body partially following the coil at the folded region, particularly where the coil is straight/parallel to the second body at the folded region.

8. Claim 122, 125-127, and 144 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fukami (US 4,604,540). Fukami teaches an electrical machine comprising an air gap, delimited by a field device, in the form of at least two bodies 3a, 18a at a distance from one another, with each one first body 18a located neighboring one second body 3a and with magnetic poles, belonging to at least one of the facing sides of the first and second body, which are magnetized orthogonally to the air gap, extending essentially over the entire air gap transverse to a direction of movement, each as a whole or divided into partial poles, and backed with return path material 1, which alternate in the direction of movement, and whose field runs essentially in a straight line inside the pole surface region of each pole from one boundary surface 3a of the air gap to the opposite boundary surface 18a, which is comprised predominantly of magnetic material, and at least one air-core coil 21 or a winding which have no contact to magnetic material 18, extending, in section transverse to the direction of movement, into the air gap approximately in the middle and at an equal distance from the first and second bodies, moving relative to the field device and thereby each coil side of the at least one air-core coil traversing the direction of movement, and is connected at the

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outer edge of the air gap with another coil side directly or via predominantly inactive conductor or winding head conductor into at least one air-core coil, wherein the air gap, in section transverse to the direction of movement, comprises at least two neighboring air gap sections 3a/18a and 3b/18b, that with one of their air gap boundary surfaces belonging to the first body 18 lie at an angle (one surface parallel to the air gap and one perpendicular) to one another at the joint edge arising in this way, and each coil side of the at least one air-core coil runs through the air gap with its air gap sections, with each edge changing its geometric form and thereby completing a bend or fold around the first body and each coil side running essentially in the air gap and very coil side stokes across both pole surface during relative moving. The air coils 21 being connected to all rotate at the same speed. Fukami teaches the second body partially following the coil at the folded region, particularly where the coil is straight/parallel to the second body at the folded region.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 124 and 140 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oba et al. (Oba)(JP 55-083,449) and Rabe (US 4,763,053). Oba teaches every aspect of the invention except the folded region of the coil being penetrated by a

magnetic field. Rabe teaches the folded portion of the coil being swept by a magnetic field/partial pole (see figure 11) to enhance efficiency of the motor. It would have been obvious to a person of ordinary skill in the art to construct the motor of Oba with a magnet over the bent portion, as taught by Rabe, to increase the efficiency of the motor.

11. Claim 105 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oba et al. (Oba)(JP 55-083,449) and Hasegawa et al. (Hasegawa) (US 5,289,069). Oba teaches every aspect of the invention except the flux return plate having permanent magnets. Hasegawa teaches the flux return plate can be either a permanent magnet (figure 10) or a flux return plate (figure 11). It would have been obvious to a person of ordinary skill in the art to construct the motor of Oba with the flux return path of the second member being permanent magnets because Hasegawa teaches the equivalence of the flux return rotor being a magnetic plate or a permanent magnet where it is within the ordinary skill in the art to choose between known equivalents, and because the permanent magnets would provide additional torque to drive the rotor due to the additional magnetic flux.

12. Claims 153 and 154 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oba et al. (Oba)(JP 55-083,449) and Oney (US 4,187,441). Oba teaches every aspect of the invention except the multiple stators and rotors. Oney teaches that any number of stators and rotors can be combine to provide a large or small motor. It would have been obvious to a person of ordinary skill in the art to construct the motor of Oba

with multiple stator and rotor to provide for large motor applications, and because it has been held that a mere duplication of essential working parts is within the ordinary skill in the art (See *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8).

### ***Allowable Subject Matter***

13. Claim 123 and 157 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 128-131, 133, 134, 137, 148, 156, 159, and 161 are allowed because they are rejoined to generic claim 123.

### ***Response to Arguments***

14. Applicant's arguments filed 4/22/03 have been fully considered but they are not persuasive.

The Applicant's argument that the air coil folded around the first body with the first and second bodies being connected at outer edges is shown in figure 1 is not persuasive. The feature is not found in figure 1, or any of the figures. The Applicant argues that a picture 1, enclosure 1 has been included, but is no picture is within the file wrapper, therefore to advance prosecution on the merits the examiner will assume that the applicant's pictures are actually the figures.

The Applicant's arguments regarding Rabe are not persuasive. Rabe clearly teaches adding a permanent magnets over the connecting portions of the wave coil to



enhance efficiency. The Applicant's suggestion his invention is more efficient than Rabe is not persuasive, because the Applicant's structural claim limitations are disclosed in Oba and Rabe as set forth above. The Applicant's arguments that pending claims are "ideal conditions" for the machine is not persuasive because the structural limitations are taught by Oba and Fukami, or obvious improvements as suggested by the cited prior art. The Applicant's arguments regarding Rabe's other embodiments are not persuasive because figure 11 clearly shows the rotor magnet extending axially and radially of the stationary coils 570. The rejection is proper and maintained.

The Applicant's argument regarding claim 144 (old claim 103) is not persuasive. The folded region of the coil includes both a curved and a flat part of coil, therefore the flat part which is parallel to the second body also follows the second body. The rejection is proper and maintained because the claims are too broad, so as to be read on by Fukami and Oba.

### ***Conclusion***

15. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nestor Ramirez, can be reached at (703) 308-1371. The facsimile number for the Group is (703) 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Karl I Tamai  
PRIMARY PATENT EXAMINER  
July 30, 2003



KARL TAMAI  
PRIMARY EXAMINER